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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,674	11/30/2001	Chanchal Chatterjee	018926-008900US	8670
20350	7590	05/19/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			DO, CHAT C	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,674

Applicant(s)

CHATTERJEE, CHANCHAL

Examiner

Chat C. Do

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-15 and 19-27 is/are allowed.
- 6) ☒ Claim(s) 1-3, 16-18 and 28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Amendment filed 03/10/2005.
2. Claims 1-33 are pending in this application. Claims 1, 4, 19, and 31-33 are independent claims. In Amendment, claims 4, 7, 11, 15, and 19 are amended. This Office Action is made final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 16-18, 28, and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheeler et al. (U.S. 5,825,680).

Re claim 1, Wheeler et al. disclose in Figures 1, 3A-3B, and 10 a method in a signal processor for quantizing a digital signal (444 in Figure 3B), the method comprising: generating a fixed-point approximation of a value X/D (e.g. X is 432 and D is 434 in Figure 3A), wherein X is a fixed-point value based on one or more samples in the digital signal (e.g. 430 in Figure 3A and 442 in Figure 3B), and wherein D is a fixed-point quantization parameter (e.g. 434 in Figure 3A as 8, 16, ...), generating a correction

(1520 in Figure 10); and modifying the approximation with the correction (output of 1520 as updated quotient in Figure 10).

Re claim 2, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 generating the approximation includes multiplying X by D', wherein D' is $2^n/D$, wherein n is a positive integer such that $2^n > D$ (col. 18 lines 59 and 64).

Re claim 3, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 n is selected from a group consisting of 8, 16, 32, 64 and 128 (col. 18 lines 59 and 64).

Re claim 16, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 including: generating X, wherein $X = 16 * \text{ABS}(X')$ (col. 18 lines 59 and 64), wherein X' is a fixed-point value based on a DCT coefficient (output of 442 in Figure 3B), and wherein D is a quantization step (434 in Figure 3A).

Re claim 17, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 including: generating X, wherein $X = 32 * \text{ABS}(X')$ (col. 18 lines 59 and 64), wherein X' is a fixed-point value based on a DCT coefficient (output of 442 in Figure 3B), and wherein D is a quantization step (434 in Figure 3A).

Re claim 18, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 generating X includes generating $X'' = 16 * \text{ABS}(X')$ (col. 18 lines 59 and 64).

Re claim 28, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 X is based on a DCT coefficient (output of 442 in Figure 3B).

Re claim 30, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 X is based on a sample of a communications signal (col. 1 lines 18-27).

Re claim 31, it is a computer program product claim of claim 1. Thus, claim 31 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 32, it is a system claim of claim 1. Thus, claim 32 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 33, Wheeler et al. further disclose in Figures 1, 3A-3B, and 10 a method in a signal processor for quantizing a digital signal (444 Figure 3B), the method comprising: generating a fixed-point approximation $X1$ of a value X/W (e.g. X is 432 and D is 434 in Figure 3A), wherein X is a fixed-point value based on one or more samples in the digital signal (e.g. 430 in Figure 3A and 442 in Figure 3B), and wherein W is a first fixed-point quantization parameter (e.g. 434 in Figure 3A as 8, 16, ...); generating a first correction (1520 in Figure 10); modifying $X1$ with the correction to produce a fixed-point value $X2$ (output of 1520 as updated quotient in Figure 10); generating a fixed point approximation $X3$ of a value $X2+(2*Q)$, wherein Q is a second fixed-point quantization parameter (e.g. 434 in Figure 3A as 8, 16, ...); generating a second correction; and modifying $X3$ with the correction (feedback system for further defined).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being obvious over Wheeler et al. (U.S. 5,825,680), as applied to claim 1 above, in view of Juri et al. (U.S. 5,329,475).

Re claim 29, Wheeler et al. do not disclose the X is based on an audio sample. However, Juri et al. disclose the sample is based on an audio sample (col. 1 lines 10-15 and 35-40). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the input sample from an audio source as cited in Juri et al.'s invention into Wheeler et al.'s invention because it would enable to enhance the digital system by efficiently quantizing signal.

Allowable Subject Matter

7. Claims 4-15 and 19-27 are allowed.

Response to Arguments

8. Applicant's arguments filed 03/10/2005 have been fully considered but they are not persuasive.

- a. The applicant argues in page 10 first paragraph for claims 1-3, 16-18, 28, and 30-33 that the cited reference does not disclose X divided by D instead of multiplication.

The examiner respectfully submits that the last Office action clearly cited that the parameter D is considered individually as either 8, 16, 32 not the matrix 434. In addition, the division is done conventionally by multiplying the reciprocal in systems for speed processing. Since the claim does not clearly define how the

division is performed. The multiplying the reciprocal is clearly meet the claimed division.

b. The applicant argues in page 10 second paragraph for claims 1-3, 16-18, 28, and 30-33 that the cited reference fails to comply the requirement under 102 since the citations are drawn from different Figures 3A and 3B for part of claim and Figure 10 for another part of the claim.

The examiner respectfully submits that Figures 3A and 3B are subcomponents of Figure 10.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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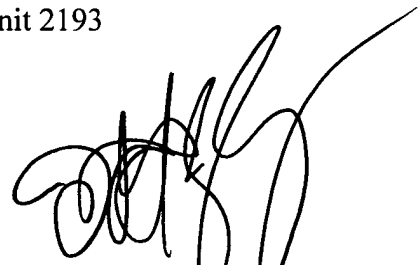
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

May 9, 2005



TODD INGBERG
PRIMARY EXAMINER